Why does Antarctica suddenly find ice melting in some parts but not others when the temperatures are freezing?

ANSWER:

Discovery of Massive Volcanic CO2 Emissions Puts Damper on Global Warming Theory

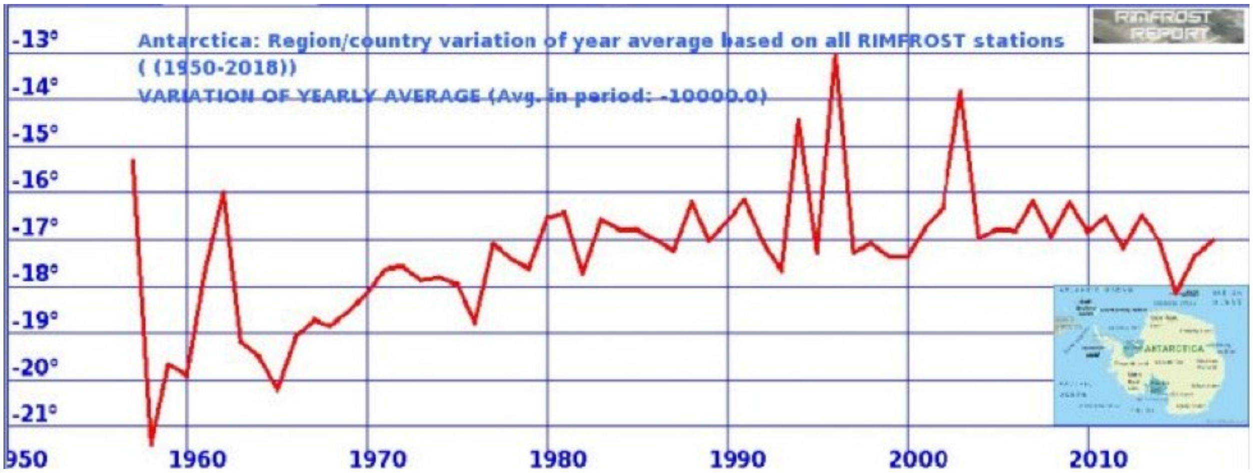


PLATE CLIMATOLOGY™

Discovery of Massive Volcanic CO2 Emissions Puts Damper on Global Warming Theory

Written by James E. Kamis on November 6, 2018

Recent research shows that the volume of volcanic CO2 currently being emitted into Earth's atmosphere is far greater than previously calculated, challenging the validity of the man-made global warming theory.

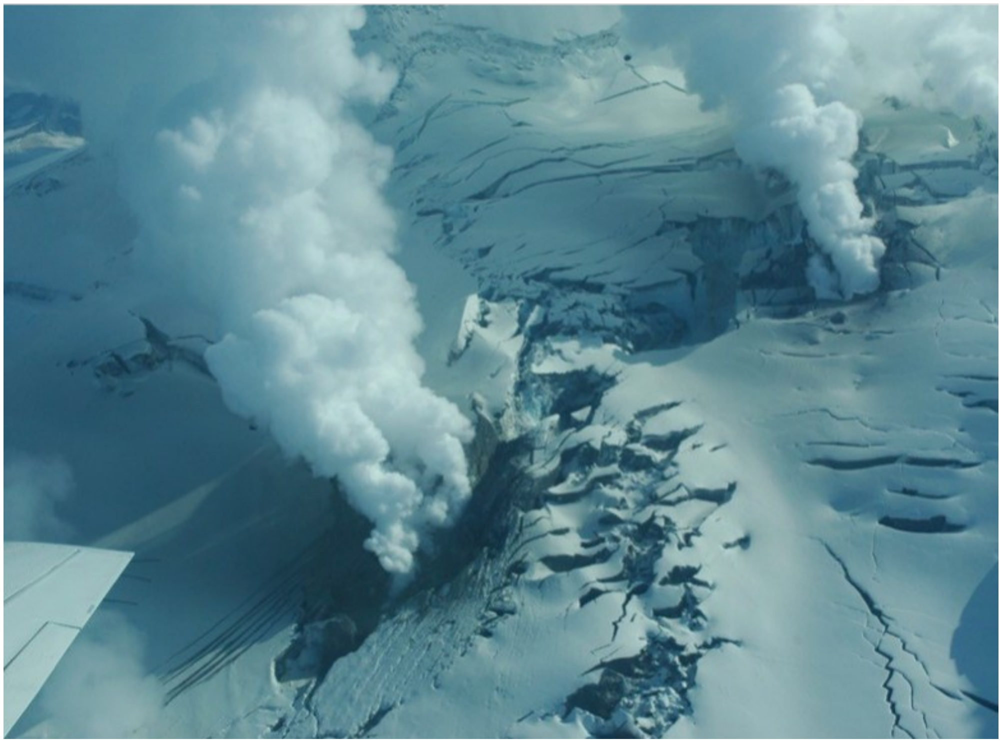


Figure 1: Volcanic gas emissions breakthrough overlying fractured and partially melted glacial ice sheet. (Image credits: Christina Neal, AVO/USGS)

The cornerstone principle of the global warming theory, **anthropogenic global warming** **(AGW)**, is built on the premise that significant increases of modern era human-induced CO2 emissions have acted to unnaturally warm Earth's atmosphere.

A warmed atmosphere that directly, or in some cases indirectly fuels anomalous environmental disasters such as ocean warming, alteration of ocean chemistry, polar ice sheet melting, global sea level rise, coral bleaching and most importantly dramatic changes in climate.

There are numerous major problems with the AGW principle.

Identification of Volcanic vs. Man-made CO2

Natural volcanic and man-made CO2 emissions have the exact same and very distinctive carbon isotopic fingerprint. It is therefore scientifically impossible to distinguish the difference between volcanic CO2 and human-induced CO2 from the burning of fossil fuels (**see here**). This major problem with the AGW principle has been rationalized away by consensus climate scientists who insist, based supposedly reliable research, that volcanic emissions are minuscule in comparison to human-induced CO2 emissions (**Gerlach 1991**). Terrance Gerlach's volcanic CO2 calculation was based on just 7 actively erupting land volcanoes and three actively erupting ocean floor hydrothermal vents (seafloor hot geysers). Utilizing gas emission data from this very limited number of volcanic features, Gerlach estimated that the volume of natural volcanic CO2 emissions is 100 to 150 times less than the volume of man-made CO2 emissions from the burning of fossil fuels and therefore of no consequence.

To put this calculation process into perspective, the Earth is home to 1,500 land volcanoes and 900,000 seafloor volcanoes/hydrothermal vents. By sampling just an extremely small percent of these volcanic features it is impossible to imagine that the calculation is correct.

Especially knowing that volcanic activity varies greatly from area to area, volcano to volcano, and through time. Utilizing just 0.001

percent (10/901,500) of Earth's volcanic features to calculate volcanic CO2 emissions does not inspire confidence in the resulting value.

Non-Erupting Volcanoes Can Emit Massive Amounts of CO2 into Earth's Atmosphere

Recent geological research by the University of Leeds and others proves that non-erupting volcanoes can emit massive amounts of CO2 into Earth's atmosphere and oceans. The Gerlach calculation and all follow-up calculations utilized volcanic CO2 rates from actively erupting volcanoes.

Lost in the numerous recent media articles concerning the argument of when, or if Iceland's **Katla Volcano** will erupt is the discovery that this **non-erupting** subglacial volcano is currently emitting staggering amounts of CO2 into Earth's atmosphere!

Researchers from the University of Leeds who studied the Katla Volcano said this.

"We discovered that Katla volcano in Iceland is a globally important source of atmospheric carbon dioxide (CO2) in spite of being previously assumed to be a minor gas emitter. Volcanoes are a key natural source of atmospheric CO2 but estimates of the total global amount of CO2 that volcanoes emit are based on only a small number of active volcanoes. Very few volcanoes which are covered by glacial ice have been measured for gas emissions, probably because they tend to be difficult to access and often do not have obvious degassing vents. Through high-precision airborne measurements and atmospheric dispersion modeling, we show that Katla, a highly hazardous subglacial volcano which last erupted 100 years ago, is one of the largest volcanic sources of CO2 on Earth, releasing up to 5% of total global volcanic emissions. This is significant in the context of a growing awareness that natural CO2 sources have to be more accurately quantified in climate assessments and we recommend urgent investigations of other subglacial volcanoes worldwide."**(see here)**

The Number of Volcanoes Emitting CO2 into the Atmosphere at Any One Time

The calculation of the total yearly volume of volcanic CO2 emitted into the atmosphere is based on the presumption that very few volcanoes are erupting at any one time. Scientists from various worldwide volcano research institutions, most notably the United States Geological Survey, have estimated this number to be 20. This very low number has been challenged by many scientists including those at NASA.

A multinational team led by NASA has initiated a high-resolution satellite CO2 monitoring project (**see here**). This project is focused on determining how many geological features are emitting CO2 at any one time. This project may eventually give scientists a better idea of how many land volcanoes are emitting CO2 at any one time. However, it is doubtful the project will properly record ocean CO2 emissions from Earth's 900,000 deep ocean floor and very difficult to monitor volcanic features. In any case, this project is certainly a step forward towards achieving a better understanding of the climate influence of volcanic CO2 emissions.

The Amount of CO2 and heat infused into Earth's Oceans by Seafloor Geological Features

About 71% of Earth's surface is covered by oceans making it a water, not land, planet. For many years now, scientists have contended that the nearly one million geological features present in these vast ocean regions have played a minimal role in heating and chemically charging ocean seawater. Instead of contending that man-made atmospheric CO2 was the root cause of changes to our oceans.

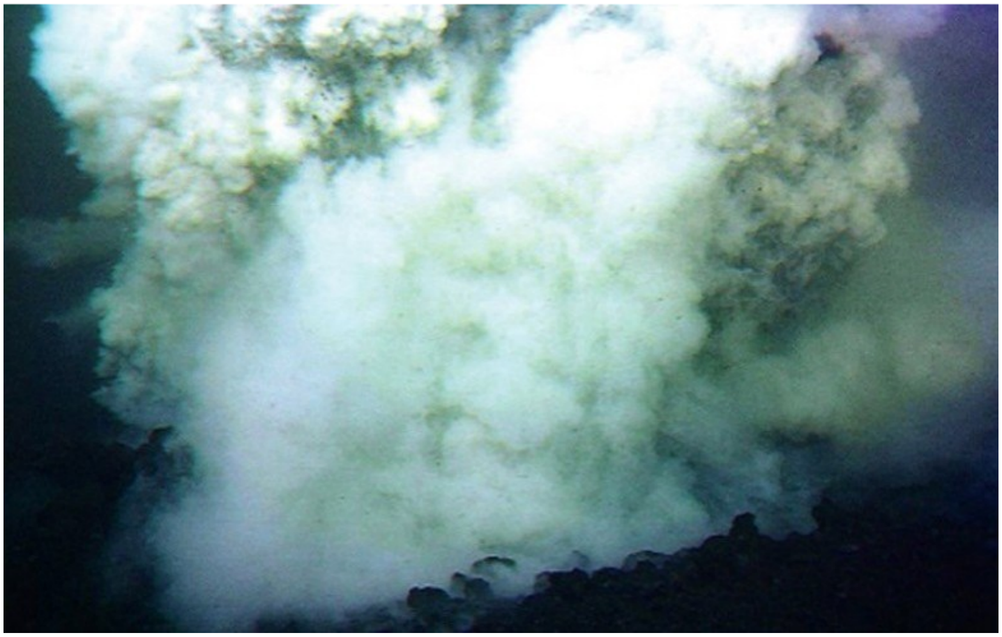


Figure 2: An underwater volcanic erupts in the Pacific Ocean (Japan Agency for Marine-Earth Science—AP).

Recent research has proven that the contentions of these scientists are far from 100% proven. To the contrary, it has become clear that geological heat flow and chemically charged heated fluid flow into our oceans is far more influential than previously thought and possibly the root cause of changes to our oceans. One example is that geological features are warming Earth’s oceans and causing El Nino’s and La Nina’s (see **here**, **here**, and **here**). Warmed seawater is not capable of holding as much CO2 as cold water. So, the geologically warming of seawater indirectly leads to a large amount of CO2 being released from oceans and emitted into the atmosphere. Recent research shows that seafloor geological features also directly emit large amounts of CO2 into our oceans and atmosphere(see **here, here, here**, and **Figure 2**).

In summary, the volume of volcanic CO2 being emitted into the Earth’s atmosphere has not been accurately assessed. Numerous research studies and articles conducted/written by qualified scientists concur with this contention (see **here**, **here**, and **here**).

In a geological time frame, Earth has gone through many periods of increased volcanism. These volcanic periods resulted in; major plant and animal extinction events (see **here, here**, and **here**), the end of glacial eras (**see here**) and the dramatic alteration of Earth’s climate (**see here**).

All indications are that Earth is currently experiencing another period of strong volcanic activity which is acting to infuse CO2 into our atmosphere thereby challenging the validity of the global warming theory.Clearly, it's time to put on hold all environmental action plans based on the cornerstone AGW principle of the global warming theory until additional geological CO2 emission research is conducted.

http://www.plateclimatology.com/discovery-of-massive-volcanic-co2-emissions-puts-damper-on-global-warming-theory

No, Katla Is Not About To Erupt

Published September 24, 2018

Words by

Andie Fontaine
Photos by
Garðar Ólafsson/Shutterstock

Despite what you may have seen in the more lurid headlines circulating, Katla, one of Iceland’s most famous volcanoes, is not giving any indications that it is about to erupt.

Although many news outlets have been guilty of exaggerated reporting of Katla’s current state, the **Daily Mail** has probably been the most notorious offender. They not only claimed that Katla is about to erupt, they also contended that its effects will “dwarf” the ash cloud emitted by Eyjafjallajökull in 2010.

While they cite an interview they took with Evgenía Ilyinskaya, one of the authors of the latest report on Katla, she has taken to **Facebook** to say she was misquoted, and attributed with saying things that she never said.

“[A]t NO point talking to ANY of the journalists who have reported on this study have I said the words ‘magma build-up’,” she writes. “Our study shows nothing of the sort. Yet, these words are in every report – supposedly quoting me directly. This not only misinforms the people who read it but undermines me as a scientist and a specialist in my field. Can’t help feeling exasperated.”

“There seems to be some misunderstanding in the media on the meaning of these important results. They should not be taken as a prediction of an eruption in Katla in the near future. And they do not predict the size and magnitude of the next eruption.”

Further, Magnús Tumi Guðmundsson of the Institute of Earth Sciences **stated** in no uncertain terms: “There seems to be some misunderstanding in the media on the meaning of these important results. They should not be taken as a prediction of an eruption in Katla in the near future. And they do not predict the size and magnitude of the next eruption.”

What, then, actually is happening at Katla? The **report** on the volcano, which is available to the general public, offers a “plain language summary” which states:

“We discovered that Katla volcano in Iceland is a globally important source of atmospheric carbon dioxide (CO2) in spite of being previously assumed to be a minor gas emitter. Volcanoes are a key natural source of atmospheric CO2 but estimates of the total global amount of CO2 that volcanoes emit are based on only a small number of active volcanoes. Very few volcanoes which are covered by glacial ice have been measured for gas emissions, probably because they tend to be difficult to access and often do not have obvious degassing vents. Through high-precision airborne measurements and atmospheric dispersion modelling, we show that Katla, a highly hazardous subglacial volcano which last erupted 100 years ago, is one of the largest volcanic sources of CO2 on Earth, releasing up to 5% of total global volcanic emissions. This is significant in a context of a growing awareness that natural CO2 sources have to be more accurately quantified in climate assessments and we recommend urgent investigations of other subglacial volcanoes world-wide.”

Katla is indeed doing interesting things, in terms of CO2 emissions, but there is absolutely no indication that the volcano is close to erupting, let alone on a scale that would surpass Eyjafjallajökull.

https://grapevine.is/news/2018/09/24/no-katla-is-not-about-to-erupt/

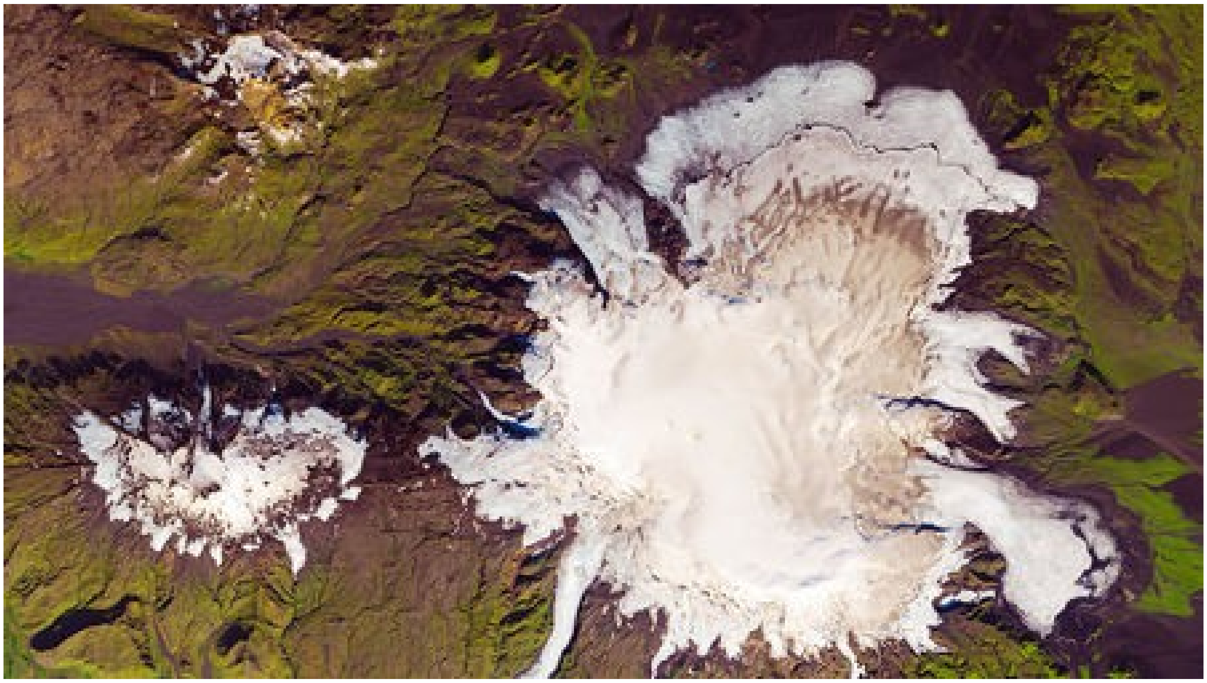
Icelandic

This ice-covered Icelandic volcano may emit more carbon dioxide than all of the country’s other volcanoes combined

Article *in* Science · September 2018 *with* 6 Reads
DOI: 10.1126/science.aav4982

Advertisement

SHARE



USGS/NASA LANDSAT DATA

This ice-covered Icelandic volcano may emit more carbon dioxide than all of the country’s other volcanoes combined

By Sid PerkinsSep. 21, 2018 , 11:50 AM

Despite being mostly smothered by a glacier averaging 200 meters thick, one of Iceland’s largest and most active volcanoes still manages to belch surprisingly large quantities of carbon dioxide (CO_2) into the atmosphere, new research reveals.

To help lift the veil on Katla (center right, above), which lies near the southernmost tip of Iceland, researchers flew a sensor-laden aircraft around the peak at low altitude three times in 2016 and 2017. At some points near the volcano, CO_2 levels were about 8% higher than normal. Using computer simulations, the team identified a few possible sources of the excess CO_2, including locations on the western flank of the volcano where meltwater full of dissolved gases emerges from beneath the peak-covering glacier. Other potential sources include some of the sinkholelike features that pepper the glacier near its peak.

Based on the team's models and data, **Katla is emitting somewhere between 12,000 and 24,000 metric tons of carbon dioxide each day**, the researchers report online this week in *Geophysical Research Letters*. That's several times higher than previous estimates of emissions from all of Iceland's volcanoes combined—which may be vastly underestimated because only two of that nation's subglacial volcanoes have had their emissions measured in detail.

SIGN UP FOR OUR DAILY NEWSLETTER
Get more great content like this delivered right to you!

Scientists estimate that volcanoes worldwide emit, on average, about 1.5 million metric tons of CO_2 per day (only about 2% of the amount that human activity causes). Yet that estimate may be far too low because it's based on measurements from only 33 of the world's most volcanically active peaks (only three of which are ice-covered), among the 1500 or so that have erupted in the past 10,000 years. More data gathered from Iceland—as well as Antarctica, which is home to dozens of ice-smothered volcanoes—may help scientists come up with a better estimate for volcanic CO_2 emissions.

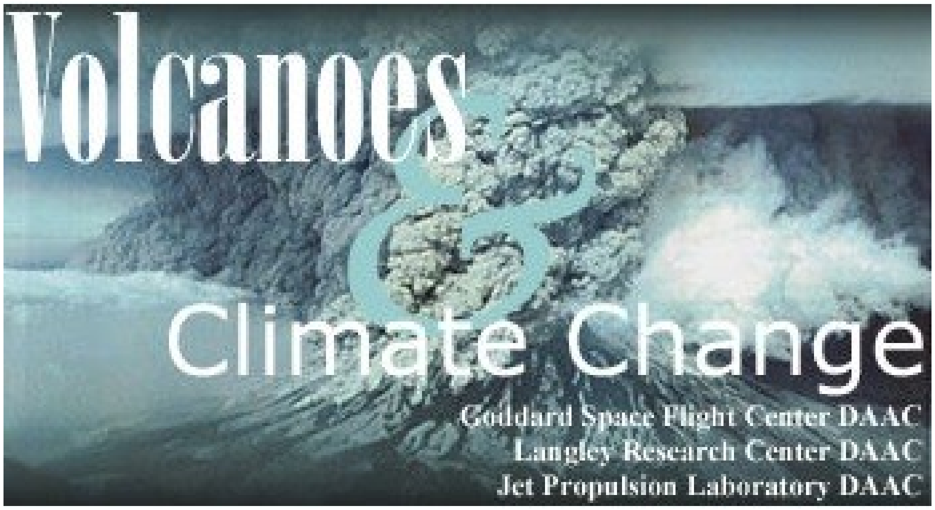
***Correction, 23 September, 9:50 a.m.:** *In the fourth paragraph, the amount of carbon dioxide emitted daily by the world's volcanoes has been updated. In our original article, a word was missing.*

https://www.sciencemag.org/news/2018/09/ice-covered-icelandic-volcano-may-emit-more-carbon-dioxide-all-country-s-other

Volcanoes and Climate Change

Last Updated: May 15, 2019 at 10:27 AM EDT

Large-scale volcanic activity may last only a few days, but the massive outpouring of gases and ash can influence climate patterns for years.


Volcanoes
&
Climate Change
Goddard Space Flight Center DAAC
Langley Research Center DAAC
Jet Propulsion Laboratory DAAC

By Jason Wolfe

When Mount Pinatubo erupted in the Philippines June 15, 1991, an estimated 20 million tons of sulfur dioxide and ash particles blasted more than 12 miles (20 km) high into the atmosphere. The eruption caused widespread destruction and loss of human life. Gases and solids injected into the stratosphere circled the globe for three weeks.

Volcanic eruptions of this magnitude can impact global climate, reducing the amount of solar radiation reaching the Earth's surface, lowering temperatures in the troposphere, and changing atmospheric circulation patterns. The extent to which this occurs is an ongoing debate.

Large-scale volcanic activity may last only a few days, but the massive outpouring of gases and ash can influence climate patterns for years. Sulfuric gases convert to sulfate aerosols, sub-micron droplets containing about 75 percent sulfuric acid. Following eruptions, these aerosol particles can linger as long as three to four years in the stratosphere.

Mount Pinatubo, June 13, 1991 (Image courtesy of NOAA).

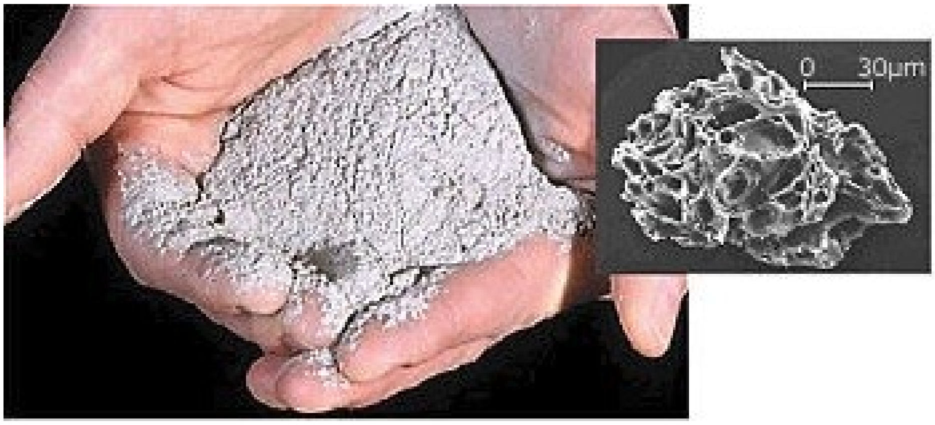
Major eruptions alter the Earth's radiative balance because volcanic aerosol clouds absorb terrestrial radiation, and scatter a significant amount of the incoming solar radiation, an effect known as "radiative forcing" that can last from two to three years following a volcanic eruption.

"Volcanic eruptions cause short-term climate changes and contribute to natural climate variability," says Georgiy Stenchikov, a research professor with the Department of Environmental Sciences at Rutgers University. "Exploring effects of volcanic eruption allows us to better understand important physical mechanisms in the climate system that are initiated by volcanic forcing."

Stenchikov and Professor Alan Robock of Rutgers University with Hans Graf and Ingo Kirchner of the Max Planck Institute for Meteorology performed a series of climate simulations that combined volcanic aerosol observations from the Stratospheric Aerosol and Gas Experiment II (SAGE II) available from NASA's Atmospheric Science Data Center (ASDC), with Upper Atmosphere Research Satellite (UARS) data from NASA's Goddard Earth Science Data and Information Services Center (GES DISC).

The research team ran a general circulation model developed at the Max Planck Institute with and without Pinatubo aerosols for the two years following the Pinatubo eruption. To study the sensitivity of climate response to sea surface temperature, using data from NASA's Physical Oceanography

Distributed Active Archive Center (PO.DAAC), they conducted calculations with climatologically mean sea surface temperature, as well as with those observed during particular El Niño and La Niña periods.



Volcanic ash, like this from Mount St. Helens, is not really ash, but tiny jagged particles of rock and glass. (Image courtesy of the USGS, from the USGS Fact Sheet 027-00).

By comparing the climate simulations from the Pinatubo eruption, with and without aerosols, the researchers found that the climate model calculated a general cooling of the global troposphere, but yielded a clear winter warming pattern of surface air temperature over Northern Hemisphere continents. The temperature of the tropical lower stratosphere increased by 4 Kelvin (4°C) because of aerosol absorption of terrestrial longwave and solar near-infrared radiation. The model demonstrated that the direct radiative effect of volcanic aerosols causes general stratospheric heating and tropospheric cooling, with a tropospheric warming pattern in the winter.

"The modeled temperature change is consistent with the temperature anomalies observed after the eruption," Stenchikov says. "The pattern of winter warming following the volcanic eruption is practically identical to a pattern of winter surface temperature change caused by global warming. It shows that volcanic aerosols force fundamental climate mechanisms that play an important role in the global change process."

This temperature pattern is consistent with the existence of a strong phase of the Arctic Oscillation, a natural pattern of circulation in which atmospheric pressure at polar and middle latitudes fluctuates, bringing higher-than-normal pressure over the polar region and lower-than-normal pressure at about 45 degrees north latitude. It is forced by the aerosol radiative effect, and circulation in winter is stronger than the aerosol radiative cooling that dominates in summer.

NASA's Upper Atmosphere Research Satellite (UARS) enables study of the chemistry, dynamics and energy balance in the atmosphere layers above the troposphere. UARS provides near-global (-80 degrees to +80 degrees) measurements of the atmospheres' internal structure as well as measurements of external influences acting on the upper atmosphere. These measurements are made simultaneously in a coordinated manner. The UARS dataset spans from September 18, 1991 through August 31, 1999. UARS data are available from GES DISC.

SAGE II, launched in October 1984, uses a technique called solar occultation to measure attenuated solar radiation and to determine the vertical distribution of stratospheric aerosols, ozone, nitrogen dioxide, and water vapor around the globe. SAGE II data are available from ASDC.

Multi-Channel Sea Surface Temperature (MCSST) data are derived from measurements of emitted and reflected radiance by the five-channel Advanced Very High Resolution Radiometers (AVHRR) onboard the NOAA -7, -9. -11 and -14 polar orbiting satellites. MCSST data currently extend from November 11, 1981 through June 7, 2000, and are updated as new data become available. The sea surface temperature data sets may be ordered from PO.DAAC.

Man-made, or "anthropogenic" emissions can make the consequences of volcanic eruptions on the global climate system more severe, Stenchikov says. For instance, chlorofluorocarbons (CFCs) in the atmosphere start a chain of chemical reactions on aerosol surfaces that destroy ozone molecules in the mid-latitude stratosphere, intensifying observed stratospheric ozone depletion.

"While we have no observations, the 1963 Agung eruption on the island of Bali probably did not deplete ozone as there was little atmospheric chlorine in the stratosphere. In 1991 after the Pinatubo eruption, when the amount of CFCs in the stratosphere increased, the ozone content in the mid-latitudes decreased by 5 percent to 8 percent, affecting highly populated regions," says Stenchikov.

NASA and the National Science Foundation have funded Robock and Stenchikov to study the Pinatubo eruption in more detail, and to conduct another model comparison with the volcanic aerosol data set. They plan to combine SAGE II data with available lidar and satellite data from various DAACs to improve their existing data set.

By understanding the impact of large volcanic eruptions on Earth's climate system in more detail, perhaps scientists will be in a better position to suggest measures to lessen their effects on people and natural resources.

References

Kirchner, I., G. Stenchikov, H.-F. Graf, A. Robock. J. Antuna, Climate model simulation of winter warming and summer cooling following the 1991 Mount Pinatubo volcanic eruption, *J. Geophys. Res.*, 104, 19,039-19,055, 1999.

Stenchikov, Georgiy L., Ingo Kirchner, Alan Robock, Hans-F. Graf, Juan Carlos Antuna, R. G. Grainger, Alyn Lambert, and Larry Thomason, 1998: Radiative Forcing from the 1991 Mount Pinatubo volcanic eruption. *J. Geophys Res.*103(D12), pp. 13837-13857.

For more information

NASA Atmospheric Science Data Center (ASDC)

NASA Goddard Earth Sciences Data and Information Services Center (GES DISC)

NASA Physical Oceanography Distributed Active Archive Center (PO.DAAC)

About the remote sensing data used			
Satellite	Stratospheric Aerosol and Gas Experiment II (SAGE II)	Upper Atmosphere Research Satellite (UARS)	NOAA -7, -9, -11, orbiting satellites
Sensor			Advanced Very H Radiometers (AV
Parameter	volcanic aerosols and climate change	volcanic aerosols and climate change	volcanic aerosols change
DAAC	NASA Atmospheric Science Data Center (ASDC)	NASA Goddard Earth Sciences Data and Information Services Center (GES DISC)	NASA Physical O Distributed Activ Center (PO.DAA

Last Updated: May 15, 2019 at 10:27 AM EDT

Massive volcanic event may have turned Earth into ‘giant snowball’, scientists say

Lava rocks breaking down linked to extreme ice age around 600 million years ago

- **Josh Gabbatiss**Science Correspondent @josh_gabbatiss
- Thursday 21 February 2019 15:16
-

Ancient volcanoes may have triggered a period in Earth’s history when temperatures plummeted and the planet turned into a “giant snowball”, according to scientists.

Remains of lava flows unearthed in Mexico revealed previously unknown volcano activity that appears to have played a role in massive fluctuations in global temperature.

The discovery of these 600 million year old rocks helps explain a period of the planet’s history when its surface froze and became covered in glaciers.

Volcanoes are a critical component in the systems that keep the Earth’s temperature swinging between periods of heat and cold over millions of years.

Mass eruptions belch out huge quantities of CO2 into the atmosphere, causing short-term global warming by the same mechanism as greenhouse gas emissions from human sources.

However, this effect is then balanced out as the rocks that form from cooling lava break down, and the minerals within them react with CO2.

While the weathering process of rocks takes millions of years, it effectively locks the greenhouse gas out of the atmosphere and makes temperatures dip.

“That guarantees long-term stability of Earth’s temperate surface conditions in comparison to the hostile environment of its cosmic neighbours, hot Venus and cold Mars,” said Professor Axel Schmitt of Heidelberg University.

Watch more

-

Professor Schmitt said a disturbance in the equilibrium between the two processes has taken place at various points in Earth’s history causing it to resemble “a snowball” from space.

“Over timescales of millions to tens of millions of years, the weathered rocks can sequester sufficient CO2 to plunge Earth’s climate into an extreme ice age,” he said.

After studying sheets of Mexican rock that are the only remnants of long-eroded lava flows in the region, Professor Schmitt and his colleagues found they were identical to other rocks found in Canada and Norway.

Dating of rare minerals found in the rock revealed the sheets were the same age as those found whole continents away.

The discovery of such an enormous stretch of ancient lava flow suggests this could have been the trigger for temperatures plummeting around 40 million years later in an event known as the Gaskiers glaciation.

The new findings were published in the journal *Geophysical Research Letters*.

While the ability of some minerals to absorb CO2 and cool global temperatures is well established, harnessing this to tackle climate change has limited potential due to the long timescale it operates on.

However, there have been some efforts by scientists to speed up the process in order to suck some of the climate-warming gas from the atmosphere.

https://www.independent.co.uk/news/science/volcano-eruption-ice-age-climate-change-global-warming-mexico-rocks-a8790096.html

NO DOUBT THE 2001 ESTIMATE IS WRONG AFTER RECENT HAWAII VOLCANIC EXPLOSIONS

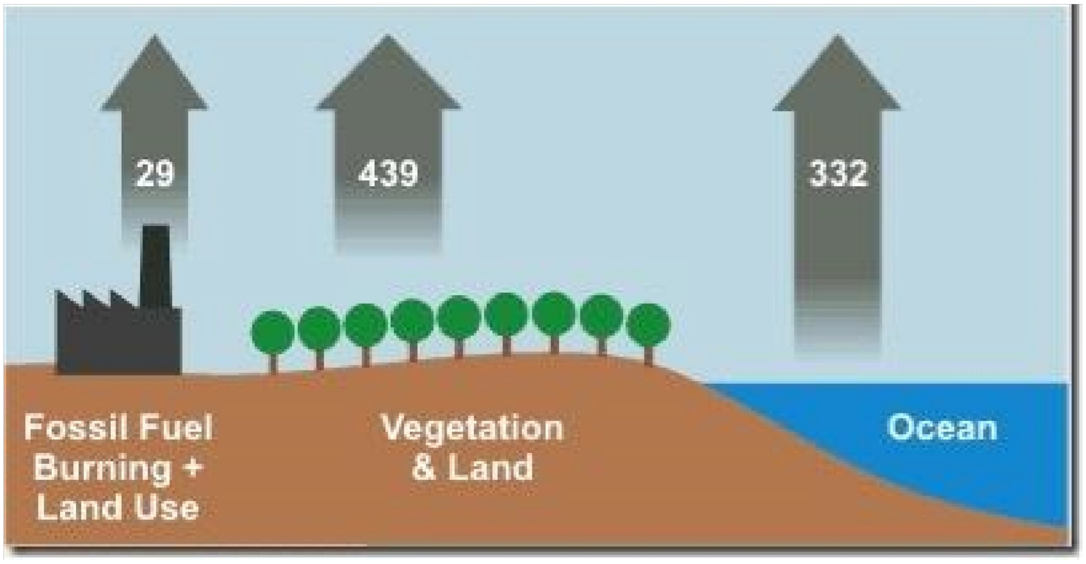
Kilauea is one of the most active volcanoes on earth and has been in a state of constant eruption since 1983, turning

explosive this month after a magnitude 6.9 volcano rocked the area.
So far, at least 47 homes and other structures have been destroyed by lava from 23 open fissures, forcing thousands from their homes.

“For example, until recently estimates of the carbon dioxide yield of one of the world’s best-known land volcanoes, Kilauea Volcano (Hawaii), was 2,800 tonnes/Co2/day. In 2001, Gerlach and co-authors established by measurement a more accurate figure of 8,800 tonnes/day. which is over three times as great. If such uncertainty attends to well-studied subaerial volcanoes, the estimates of carbon dioxide emissions from submarine volcanoes, the majority, are obviously little better than guesses.” Robert M. Carter, CLIMATE: THE COUNTER CONSENSUS.

Bad Data about Co2 human emissions overestimated

It is essential to understand the complexity of measuring human made Co2 emissions and to realize at a detail level the trace amounts are indistinguishable from natural sources of Co2. The atmosphere contains approximately 800 Gt of Co2 with 95% coming from natural sources of vegetation, land and ocean and 4% form human fossil fuel emissions. Here is a vital graph sourced from the IPCC and it is only a rough estimate and far from accurate -



The amounts of Co2 are measured in Gt and obviously the are just estimates with a great deal of annual variability. Think about the key sources of volcanoes and wildfires and how easy it is to err.

There is no actual observation of the three primary different sources of Co2. Numbers are simply statistical estimates from data. This is a significant problem for the alarmist theory of human caused global warming.

Worse is the way alarmist science ignores the amount of C02 from wildfires.

The current devastating wildfires in California obviously are having a large effect on the climate. In fact the evidence is wildfires spew out 3 times the C02 that comes from fossil fuels.

How do CO2 emissions from forest fires compare to those from fossil fuels?

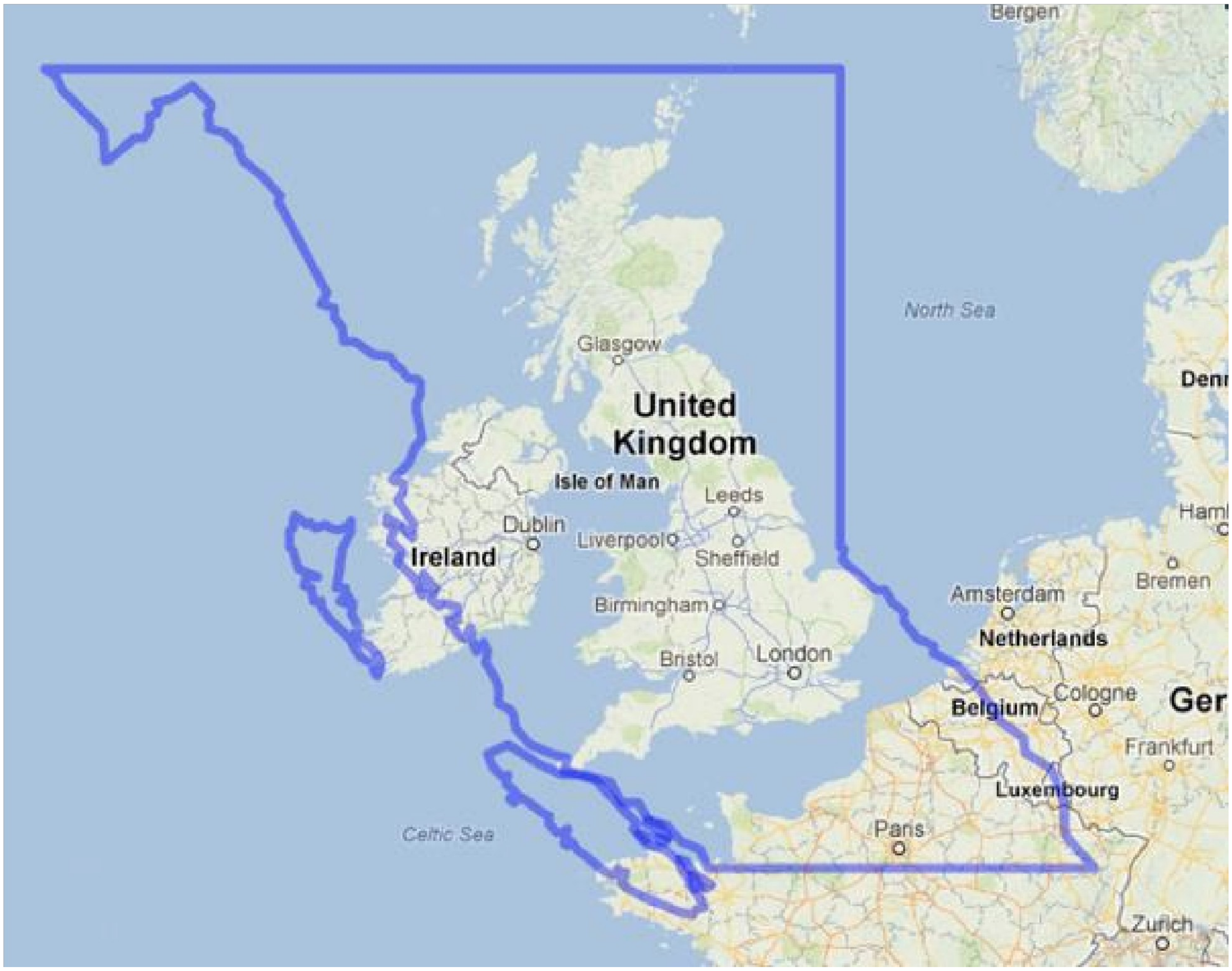
Posted: Sep 15, 2018 12:00 PM ET | Last Updated: September 14, 2018

Forest fires like this one in BC emit 2 to 3 times the amount of CO2 as the burning of fossil fuels from other sectors. (Getty Images Chris Harris)

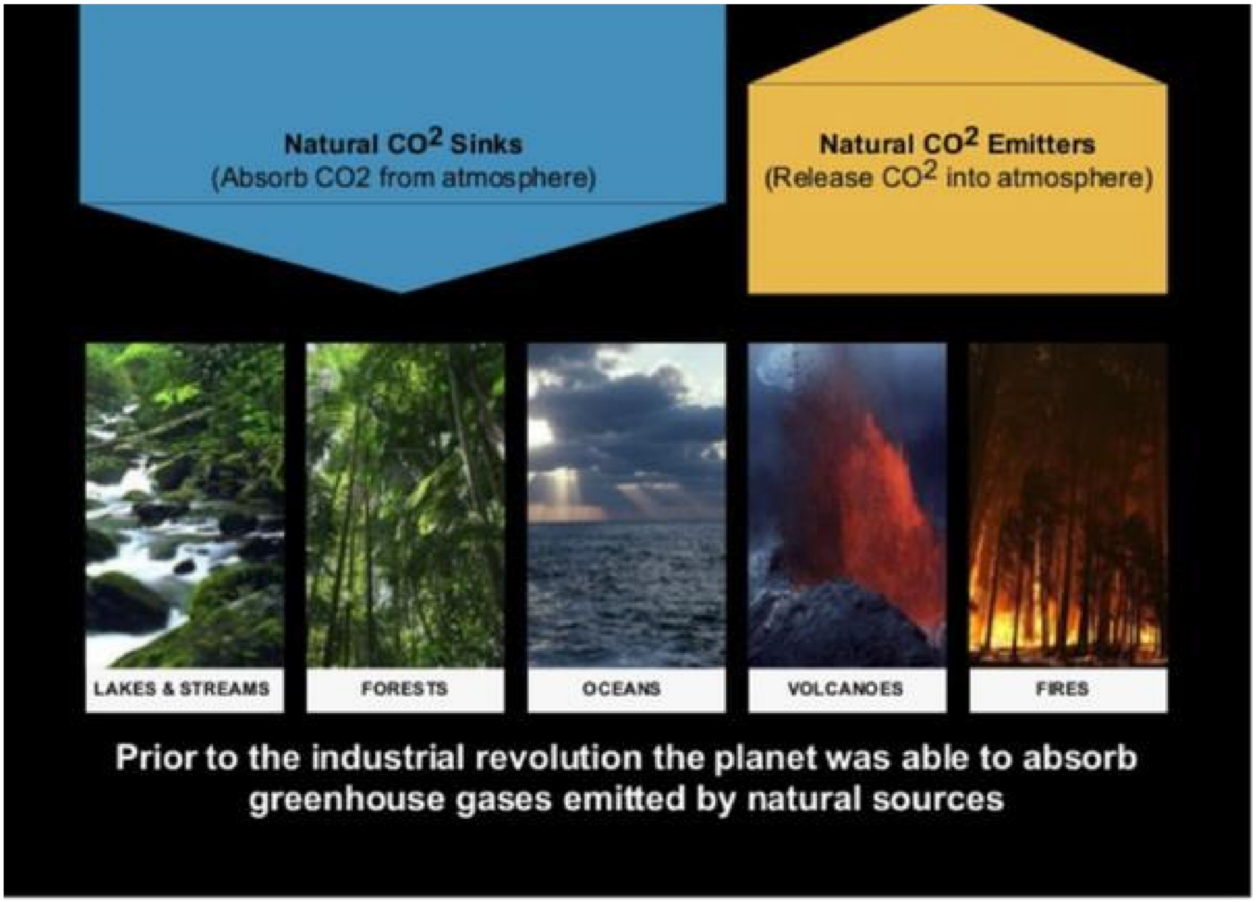
*What is the relative size of the CO2 emission of the forest fires compared with that from fossil fuel usage?*Dr. Werner Kurz has the answer. He is a Senior Research Scientist with Natural Resources Canada, and also leads the team that develops Canada's forest greenhouse gas inventories and the Forest Carbon Management Project of the Pacific Institute for Climate Solutions (PICS). Dr. Kurz says that in 2017 about 1.2 million hectares of forest burned in British Columbia, and 1.3 million hectares and counting this year. Compared to the average annual area burned in the province between 1990 and 2015, each of the last two years burned 15 times more than the average area.

Forest fires like these release carbon dioxide and other greenhouse gasses, such as methane into the atmosphere. The initial - albeit unofficial - estimate is that the direct fire emissions in 2017 were about 150 (plus/minus 30) million tons of carbon dioxide.This is two to three times the emissions from fossil fuel burning from all other sectors in B.C.But the impacts on the atmosphere are even greater because the many trees killed by fires will decompose over the next decades, releasing more carbon dioxide into the atmosphere. Also, trees killed by fires will not be removing carbon dioxide from the atmosphere as living trees would. Therefore, the combined impact on the greenhouse gas emission balance is larger than just the direct emissions. Fortunately, most forests affected by wildfires will regrow in future decades, and remove carbon dioxide from the atmosphere again.

Note British Columbia has a land mass larger than the UK for example.



The analysis of Dr. Kurtz of Co2 emissions from forest fires does not match the very low 10–15% used by the alarmist science. This is the key difference between observational science and theoretical science based on computer modelling. The result is further evidence that the whole global warming fear mongering about Co2 is ridiculously exaggerated as are predictions about sea level rise and Island refugees.



Prior to the industrial revolution the planet was able to absorb greenhouse gases emitted by natural sources

'It's alarming': Wildfire emissions grow to triple B.C.'s annual carbon footprint

© Getty Images/AFP/C. Burston

The fires around the city of Fort McMurray in Alberta are still not under control

Advocates call for wildfire emissions to be included in B.C.'s annual greenhouse gas inventory. By ignoring Co2 wildfire data the alarmist increase the minute amount of human emissions. This does not make human's anymore culpable as the whole greenhouse gas theory is a proven fiction.
This means the human contributions in context are not well understood because no one, including the IPCC, can satisfactorily account for the observed levels in detail. There is no doubt carbon dioxide sources and sinks have large DATA ERRORS. Even with guesses the IPCC admits man's carbon dioxide contribution is small, but the IPCC argues that, nonetheless, anthropogenic emissions will 'tip' the natural balance of the planet causing dangerous climate change and acidification of the ocean.

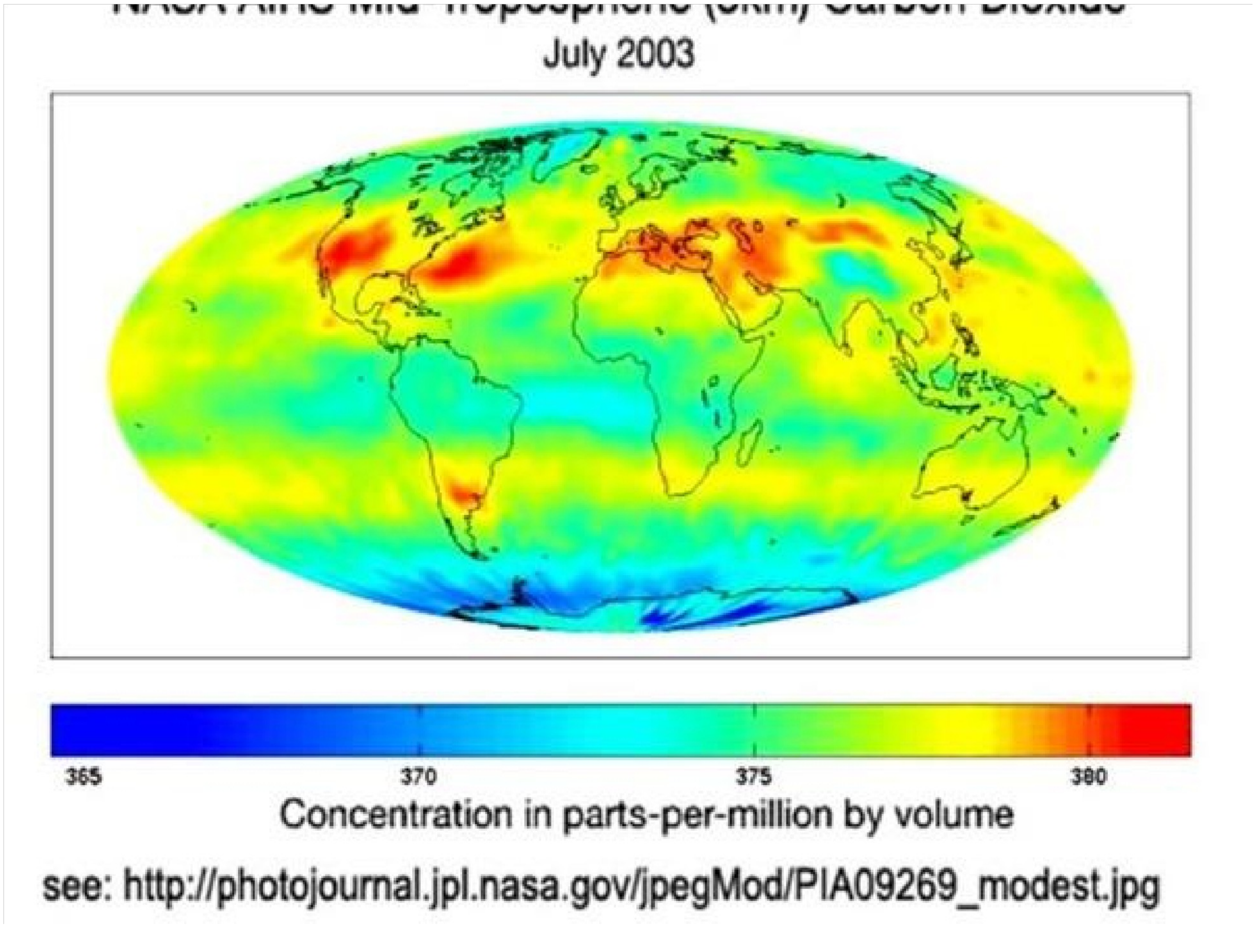
One expert climatologist Tim Ball estimates that human production of carbon dioxide is more than four times less than the combined statistical error (32Gt) on the estimated carbon dioxide production from all other sources. IBID, page 74 Carter. This means that human emission are no more than the statistical error of the estimates.

It also rebuts any theory of a **tipping point** in the balance of natural and human emission. Volcanos are a candidate as they are badly underestimated in the statistics.

CO2 IS HEAVIER THAN AIR - DENSITY of 44 grams per mole.
Air contains 78% nitrogen weighing 14 grams per mole, 21% oxygen weighing 32 g/mol and 0.9% argon weighing 39 g/mol. Carbon dioxide has one carbon atom and two oxygen atoms, and a molecular weight of 44 grams per mole. Hence, carbon dioxide has a higher density, or is heavier than air. Therefore it does not remain in the atmosphere for lengthy periods as claimed by alarmists.

Climate Fraud Exposed: CO2 Doesn’t Rise Up, Trap And Retain Heat

Published on
January 30, 2017
Written by John O'Sullivan



see: http://photojournal.jpl.nasa.gov/jpegMod/PIA09269_modest.jpg

We have been lied to: Carbon dioxide (CO2) is an alleged ‘well-mixed gas’ also alleged to reside in sufficient quantities high in the atmosphere to cause global warming (via the so-called greenhouse gas effect). But as President Trump looks to help dismantle the hoax there is much inconvenient science at hand to help his administration discredit this ‘theory’ beloved by climate alarmists.

The first damaging fact to the theory: CO2 is actually a heavy gas. It is not

‘well mixed’ in the air as per the glib claim. Just check out the NASA image (above) showing widely varying carbon dioxide concentrations. Indeed, schoolchildren are shown just how heavy CO2 is by way of a simple school lab experiment. This heavy gas thus struggles to rise and soon falls back to earth due to its Specific Gravity (SG). Real scientists rely on the SG measure which gives standard air a value of 1.0 where the measured SG of CO2 is 1.5 (considerably heavier). Thus, in the real world the warming theory barely gets off the ground.

As shown in Carbon Dioxide Not a Well Mixed Gas and Can’t Cause Global Warming the same principle applies to heat transfer: the Specific Heat (SH) of air is 1.0 and the SH of CO2 is 0.8 (thus CO2 heats and cools faster). Combining these properties allows for thermal mixing. Heavy CO2 warms faster and rises, as in a hot air balloon. It then rapidly cools and falls. Once it falls it loses any claimed climate impact.

You see, so much of what we have been told about the greenhouse gas mechanism is false. James Moodey wrote an excellent debunk of CO2 pseudo-science. He tells us:

“Proponents [of the greenhouse gas theory] point to scientist John Tyndall for postulating what we now call global warming in his 1861 paper published in “Philosophical Transactions.” Tyndall’s experiments methodically measured with an electronic galvanometer, the relative heat absorption of various gases, gas vapors and even a few solids. He proved that they absorb heat in the order listed.

Generally, the larger the gas molecule (compound gases), the more heat they absorb with the most heat absorbed by olefiant gas (ethylene). Although he does not mention carbon dioxide, it might absorb about a third of that amount. He discovered that that these gases absorb less heat as their pressure rises, so he measured at extreme low pressures.

At one point, he generalizes that gas vapors, such as aqueous vapor, absorb roughly 13 times more than dry gases. Solids absorb even more heat. He notes that gases cool in proportion to the absorption with large molecule gases taking longer to cool. Tyndall leaps a bit with this concept when he hypothesizes the affect on our atmosphere by stating, “to account for different

amounts of heat being preserved to the earth at different times" – which we attribute to global warming."
There is no doubt what he measured exists, but nowhere in John Tyndall's paper does he add the element of time. Yes, some gases absorb heat, but for how long? If you ask any climate 'scientist' how long CO2 traps heat they are unable to tell you. They certainly can't claim Tyndall "settled" it. Instead you will find airy-fairy, hand-waving pronouncements like this peach:
"As humans emit greenhouse gases like CO2, the air warms and holds more water vapor, which then traps more heat and accelerates warming."

You see, they want to convince you that CO2 is trapping heat (like a greenhouse) but then don't tell you how much and for how long. In fact, the only scientist to test CO2 absorption/emission in the open atmosphere is
Professor Nasif Nahle (Monterrey, Mexico) in his peer-reviewed paper,
'Determining the Total Emissivity of a Mixture of Gases Containing Overlapping Absorption Bands.' [1]

By performing his experiments in the open atmosphere Professor Nahle found:
"Applying the physics laws of atmospheric heat transfer, the Carbon Dioxide behaves as a ***coolant*** of the Earth's surface and the Earth's atmosphere by its effect of diminishing the total absorptivity and total emissivity of the mixture of atmospheric gases." [emphasis added]

So much for that 'greenhouse effect'! Unlike academics playing with computers, applied scientists like Nahle and measurement engineers, who must be correct or buildings would catch fire, use four aspects of physics to measure gases: Pressure (**Boyles Law**), Temperature (**Charles**
Law), **Super-compressibility** and **Specific Gravity**. Charles Law and
Specific Gravity should be at the center of any analysis of Global Warming.
But take a look at any climate 'science' publication explaining how they quantify and explain their mechanism of carbon

dioxide’s ‘heat trapping’ in the climate and you will only read about radiation effects, nothing at all on those essential laws that chemical science experts rely on. Anyway, a greenhouse works by blocking out cooling convection, not by trapping radiation.

And the greenhouse gas theory is all about radiation. But radiation is not the principle method of heat transport in a gaseous environment like earth’s atmosphere. Here. it is convection and conduction that carry heat around the system. No wonder climate computer models fail.

So, does carbon dioxide trap and retain heat? No, although it cools more slowly than some other gases, it absorbs some amount of heat and quickly cools the same amount when the heat source is removed. Does it rise up in the atmosphere? No, it does the opposite. It sinks.

It is well known that CO2 pools in the lower atmosphere – it is heavy and sinks to the ground where it forms large concentrations (e.g as carboniferous limestone). Geologists know this all too well. They can point us to innumerable examples e.g. those prehistoric limestone deposits on ocean beds which gave the south coast of Britain it’s marvelous white cliffs of Dover (see image).

As Moodey goes on to tell us:

Charles Law precisely quantifies the volume expansion of gas when heated at each degree of temperature. Likewise, as gas cools its volume shrinks precisely the same. Our modern instruments measure instantaneous changes in volume and temperature. This does the same as John Tyndall’s instrument, except we can measure a slight change in volume with each degree of temperature. By my experience with this, I estimate that gases lose the absorbed temperature very rapidly when the heat source is removed.

Specific gravity is the weight of a gas compared with air. Carbon Dioxide has a specific gravity of 1.52. It is about one and a half times heavier than air. It is the same weight as propane and anyone who uses propane knows it to be very heavy. Carbon dioxide sinks into our storm drains and into the ground like a puddle of water.

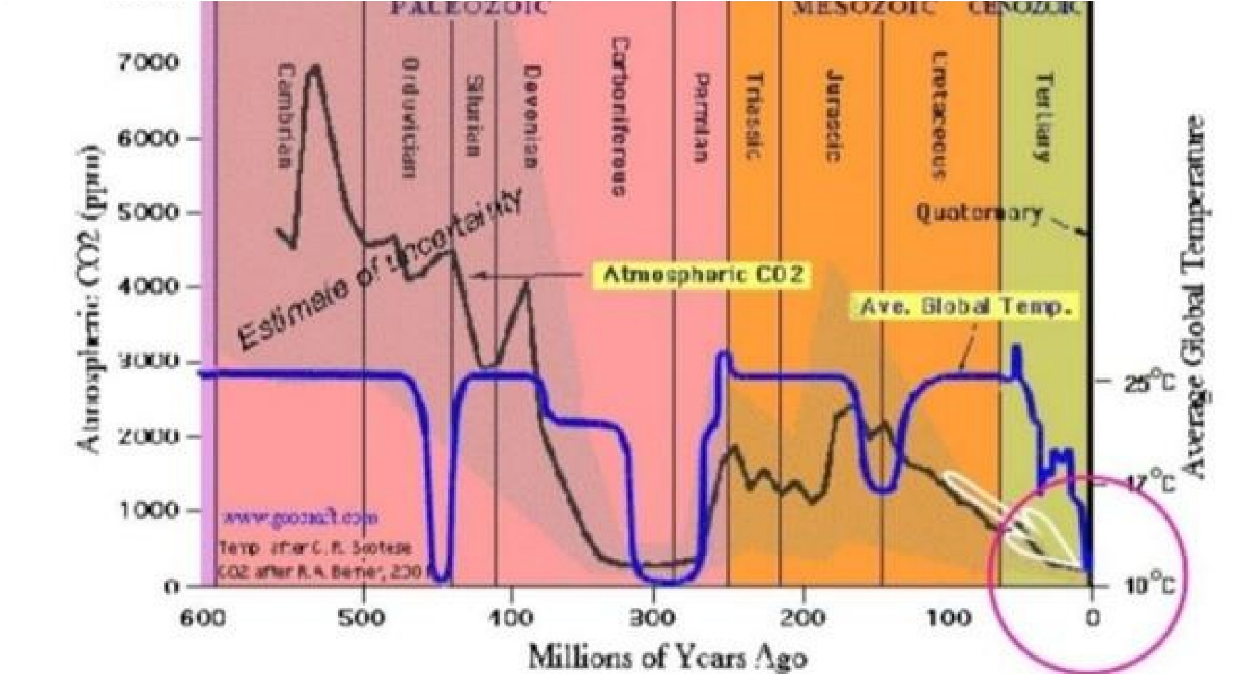
Now back to some Geology:

And we know carbon dioxide forms into insoluble carbonates that will eventually be washed into the *ocean* and *settle* on the *ocean* floor. Just as well it does. A high carbonate content in the ocean has been a godsend to life. Dissolved carbonates in seawater provide an efficient chemical buffer to various processes that change the properties of seawater. For instance, the addition of a strong acid such as hydrochloric acid (naturally added to the ocean by volcanism), is strongly buffered by the seawater carbonate system. Marine biologists and oceanographers, unlike most climate ‘scientists’, know that Phytoplankton have always sucked *CO2* out of the sky, then dumps to *ocean* floor. [2]

This is the carbon cycle in operation – heavier organic carbon settling down to intermediate and deep waters. Earth’s *oceans* and rains serve as a gobetween to transport the carbon back … and free the *CO2 gas* which makes its way back up to the surface through volcanoes. [3]

It is sensible to see dispersion of CO2 via volcanic eruptions (and the very tiny human emissions of CO2) as fertilization of the land fauna and flora. The inconvenient truth for global warming alarmists is that NASA finds that the rise in atmospheric CO2 over the last 35 years “*represents an increase* *in leaves on plants and trees equivalent in area to two times the continental United States*." [4]

If NASA is correct, then we need more carbon dioxide in the atmosphere, not less. Check the graph below and follow the blue line to see that life on earth has thrived on CO2 concentrations at >3,000 ppm, far higher (20 times) than today's levels of about 400 ppm (circled):



And if you think like a geologist and not like a climate 'scientists' and look back in the history of time you see the atmosphere had very large amounts of carbon dioxide in it. Today we have got less than 0.4%. So where did that carbon dioxide go to? It went into limestone, chalk, shells and life. All landbased lifeforms have been sequestering carbon for ONLY two and a half billion years. And all that CO2 that is supposed to turn the oceans more acidic? Pure nonsense because even NOAA scientists admit in private that they can't name any place affected by ocean acidification. **And more than 99% of earth's FREE CO2 is already in the ocean waters.**

If only those self-absorbed climate 'scientists' would speak to chemical scientists. All that Calcium Carbonate comes from the precipitation reaction of Calcium Hydroxide in the ocean with CO2 using the reaction Ca(OH)2 + CO2 -> CaCO3 + H20. For example, shellfish need CO2 from the ocean to make their shells and control the conditions for PH, Temperature and Ion Concentration and they bind the crystals that form in a protein matrix for strength. Shellfish are utterly unaffected by the piddling change in the ocean from being a base of 8.3 to being a base of PH 8.29 that might happen due to manmade CO2

Our planet has been degassing carbon dioxide since it first formed four and a half billion years ago and now we are at a dangerously low level. The dumbest thing nations can do is permit scrubbing CO2 from the air (carbon sequestration).

As Professor Nahle found with his open air experiments:

“The general conclusion is that by adding any gas with total emissivity/absorptivity lower than the total emissivity/absorptivity of the main absorber/emitter in the mixture of gases makes that the total emissivity/absorptivity of the mixture of gases decreases. In consequence, the carbon dioxide and the oxygen at the overlapping absorption spectral bands act as mitigating factors of the warming of the atmosphere, not as intensifier factors of the total absorptivity/emissivity of the atmosphere.”

Indeed, even with some slight cooling observed, the affect of carbon dioxide on the temperature of our atmosphere is not even measurable as the content is so tiny. Note that during our most dramatic industrial growth from 1950 to 1980, our atmosphere cooled. In fact putting co2 into the air is saving the planet. If the industrial age did not occur for another 100 million years, what would the co2 ppm in air be then? The danger is without humans taking steps to put more carbon dioxide into the air then life as we know it could end. *****

[1] Nahle, N., ‘Determining the Total Emissivity of a Mixture of Gases Containing Overlapping Absorption Bands,’ http://www.biocab.org/Overlappin...

[2] Lionel Guidi, et al x 64 names (2015) **Plankton networks driving carbon export in the oligotrophic ocean**. *Nature*, 2016; DOI: 10.1038/nature16942

[3] ‘Marine barite: Recorder of variations in ocean export productivity‘ page 698, Fig 6).

[4]Samson Reiny, ‘Carbon Dioxide Fertilization Greening Earth, Study Finds,’ Carbon Dioxide Fertilization Greening Earth, Study Finds (accessed online: January 30, 2017)

Climate Fraud Exposed: CO2 doesn't rise up, trap and retain heat | PSI Intl

Scientists discover 91 volcanoes below Antarctic ice sheet

This is in addition to 47 already known about and eruption would melt more ice in region affected by climate change

Robin McKie

Sat 12 Aug 2017 23.11 BSTLast modified on Wed 14 Feb 2018 16.57 GMT

Unnamed peaks on the west coast of the Antarctic peninsula tower over the harsh Antarctic coast. Photograph: Alamy Stock Photo

Scientists have uncovered the largest volcanic region on Earth – two kilometres below the surface of the vast ice sheet that covers west Antarctica.

The project, by Edinburgh University researchers, has revealed almost 100 volcanoes – with the highest as tall as the Eiger, which stands at almost 4,000 metres in Switzerland.

Geologists say this huge region is likely to dwarf that of east Africa's volcanic ridge, currently rated the densest concentration of volcanoes in the world.

And the activity of this range could have worrying consequences, they have warned. "If one of these volcanoes were to erupt it could further destabilise west Antarctica's ice sheets," said glacier expert Robert Bingham, one of the paper's authors. "Anything that causes the melting of ice – which an eruption certainly would – is likely to speed up the flow of ice into the sea.

Advertisement

"The big question is: how active are these volcanoes? That is something we need to determine as quickly as possible."

The Edinburgh volcano survey, reported in the Geological Society's special publications series, involved studying the underside of the west Antarctica ice sheet for hidden peaks of basalt rock similar to those produced by the region's other volcanoes. Their tips actually lie above the ice and have been spotted by polar explorers over the past century.

But how many lie below the ice? This question was originally asked by the team's youngest member, Max Van Wyk de Vries, an undergraduate at the university's school of geosciences and a self-confessed volcano fanatic. He set up the project with the help of Bingham. Their study involved analysing measurements made by previous surveys, which involved the use of ice-penetrating radar, carried either by planes or land vehicles, to survey strips of the west Antarctic ice.

Sign up to the Green Light email to get the planet's most important stories

Read more

The results were then compared with satellite and database records and geological information from other aerial surveys. “Essentially, we were looking for evidence of volcanic cones sticking up into the ice,” Bingham said.

After the team had collated the results, it reported a staggering 91 previously unknown volcanoes, adding to the 47 others that had been discovered over the previous century of exploring the region.

These newly discovered volcanoes range in height from 100 to 3,850 metres. All are covered in ice, which sometimes lies in layers that are more than 4km thick in the region. These active peaks are concentrated in a region known as the west Antarctic rift system, which stretches 3,500km from Antarctica’s Ross ice shelf to the Antarctic peninsula.

“We were amazed,” Bingham said. “We had not expected to find anything like that number. We have almost trebled the number of volcanoes known to exist in west Antarctica. We also suspect there are even more on the bed of the sea that lies under the Ross ice shelf, so that I think it is very likely this region will turn out to be the densest region of volcanoes in the world, greater even than east Africa, where mounts Nyiragongo, Kilimanjaro, Longonot and all the other active volcanoes are concentrated.”

The discovery is particularly important because the activity of these volcanoes could have crucial implications for the rest of the planet. If one erupts, it could further destabilise some of the region’s ice sheets, which have already been affected by global warming. Meltwater outflows into the Antarctic ocean could trigger sea level rises. “We just don’t know about how active these volcanoes have been in the past,” Bingham said.

Play Video
Play
Current Time0:00
/
Duration Time0:00
Loaded: 0%
Progress: 0%
Fullscreen
Mute
FacebookTwitterPinterest
Vast iceberg splits from Antarctic ice shelf

However, he pointed to one alarming trend: “The most volcanism that is going in the world at present is in regions that have only recently lost their glacier covering – after the end of the last ice age. These places include Iceland and Alaska.

“Theory suggests that this is occurring because, without ice sheets on top of them, there is a release of pressure on the regions’ volcanoes and they become more active.”

And this could happen in west Antarctica, where significant warming in the region caused by climate change has begun to affect its ice sheets. If they are reduced significantly, this could release pressure on the volcanoes that lie below and lead to eruptions that could further destabilise the ice sheets and enhance sea level rises that are already affecting our oceans.

“It is something we will have to watch closely,” Bingham said.